CLAIMS

1. A method of processing a signal received via a radio interface, including contributions from a plurality of channels multiplexed by respective spreading codes, the method comprising the steps of:

/a/ estimating response parameters of the multiplexed channels;

/b/ calculating soft estimates of symbols transmitted over the multiplexed channels, as a function of the received signal and of the estimated response parameters;

/c/ dividing the symbols whose soft estimates have just been calculated between a first set of symbols satisfying a confidence criterion applied to said soft estimates and a second set of symbols not satisfying the confidence criterion;

/d/ determining a modified signal by subtracting estimated contributions corresponding to the symbols of the first set, respectively, from the signal subjected to the previous calculation of soft estimates; and

/e/ calculating new soft estimates of the symbols of the second set only, as a function of the modified signal and of the estimated response parameters.

2. The method as claimed in Claim 1, wherein step /e/ is executed according to a detection algorithm of more complex nature than step /b/.

3. The method as claimed in Claim 1, wherein step /e/ is executed according to a multi-user detection algorithm.

4. The method as claimed in Claim 1, further comprising the step of repeating at least once the sequence of steps /c/ to /e/.

5. The method as claimed in Claim 4, wherein the confidence criterion varies from one iteration of the sequence of steps /c/ to /e/ to the next.

6. The method as claimed in Claim 1, wherein the confidence criterion is expressed as a proportion of the lowest soft estimates.

7. The method as claimed in Claim 1, wherein the confidence criterion is expressed as a confidence threshold to be reached by the soft estimates of the symbols.

8. A device for processing a signal received via a radio interface, including contributions from a plurality of channels multiplexed by respective spreading codes, the device comprising means for estimating response parameters of the multiplexed channels, first means for calculating soft estimates of symbols transmitted over the multiplexed channels, as a function of the received signal and of the estimated response parameters, means for dividing the symbols between a first set of symbols satisfying a confidence criterion applied to the soft estimates produced by the first means for calculating and a second set of symbols not satisfying the confidence criterion, means for determining a modified signal by subtracting estimated contributions corresponding to the symbols of the first set, respectively, from the received signal, and second means for calculating new soft estimates of the symbols of the second set only, as a function of the modified signal and of the estimated response parameters.

9. The device as claimed in Claim 8, wherein the second means for calculating are arranged to apply a detection algorithm of more complex nature than the first means for calculating.

10. The device as claimed in Claim 8, wherein the second means for calculating are arranged to apply a multi-user detection algorithm.

11. The device as claimed in Claim 8, further comprising second means for dividing the symbols of the second set between a first subset of symbols satisfying a second confidence criterion applied to the soft estimates produced by the second means for calculating and a second subset of symbols not satisfying the second confidence criterion, means for determining a second

modified signal by subtracting estimated contributions corresponding to the symbols of the first subset, respectively, from the modified signal which was subjected to the second means for calculating, and third means for calculating of new soft estimates of the symbols of the second subset only, as a function of the second modified signal and of the estimated response parameters.

12. A computer program product for running in a radiocommunication receiver, the program comprising instructions for carrying out the following steps upon execution of the program by a signal processing unit of the receiver:

/a/ estimating response parameters of the multiplexed channels;

/b/ calculating soft estimates of symbols transmitted over the multiplexed channels, as a function of the received signal and of the estimated response parameters;

/c/ dividing the symbols whose soft estimates have just been calculated between a first set of symbols satisfying a confidence criterion applied to said soft estimates and a second set of symbols not satisfying the confidence criterion;

/d/ determining a modified signal by subtracting estimated contributions corresponding to the symbols of the first set, respectively, from the signal subjected to the previous calculation of soft estimates; and

/e/ calculating new soft estimates of the symbols of the second set only, as a function of the modified signal and of the estimated response parameters.

13. The computer program product as claimed in Claim 12, further comprising instructions for executing step /e/ according to a detection algorithm of more complex nature than step /b/.

14. The computer program product as claimed in Claim 12, further comprising instructions for executing step /e/ according to a multi-user detection algorithm.

15. The computer program product as claimed in Claim 12, further comprising instructions for repeating at least once the sequence of steps /c/ to /e/.

16. The computer program product as claimed in Claim 15, wherein the confidence criterion varies from one iteration of the sequence of steps /c/ to /e/ to the next.

17. The computer program product as claimed in Claim 12, wherein the confidence criterion is expressed as a proportion of the lowest soft estimates.

18. The computer program product as claimed in Claim 12, wherein the confidence criterion is expressed as a confidence threshold to be reached by the soft estimates of the symbols.